

COURTESY COPY OF THE INTERNATIONAL

PRELIMINARY REPORT ON

PATENTABILITY

WITH ANNEXES CONTAINING

CLAIMS 1 - 40 TO BE SUBSTITUTED

FOR ORIGINAL CLAIMS 1 - 45

FOR EXAMINATION IN THIS CASE

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

## PCT

To:

REINHOLD COHN AND PARTNERS  
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**RECEIVED**  
20-03-2006  
REINHOLD COHN AND PARTNERS

### NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(PCT Rule 71.1)

Date of mailing  
(day/month/year)

15.03.2006

Applicant's or agent's file reference  
158320-2 DK

#### IMPORTANT NOTIFICATION

International application No.  
PCT/IL2005/000172

International filing date (day/month/year)  
10.02.2005

Priority date (day/month/year)  
12.02.2004

Applicant  
UNIQULEEN-WASTEWATER TREATMENT LTD. et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary report on patentability and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

#### 4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the international  
preliminary examining authority:



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# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 158320-2 DK		<b>FOR FURTHER ACTION</b>		See Form PCT/PEA/416
International application No. PCT/IL2005/000172		International filing date (day/month/year) 10.02.2005		Priority date (day/month/year) 12.02.2004
International Patent Classification (IPC) or national classification and IPC C02F1/52, C02F1/66, C02F1/72, C02F9/00, C02F1/48, C02F11/14				
Applicant UNIQKLEEN-WASTEWATER TREATMENT LTD. et al.				
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau a total of 5 sheets, as follows:</p> <p style="margin-left: 40px;"><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets which supersede earlier sheets; but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>				
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty; inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>				
Date of submission of the demand  08.12.2005		Date of completion of this report  15.03.2006		
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer  Borello, E  Telephone No. +49 89 2399-7378 		

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/IL2005/000172

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**Box No. I Basis of the report**

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1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

**Description, Pages**

1-29 as originally filed

**Claims, Numbers**

1-40 received on 16.12.2005 with letter of 08.12.2005

**Drawings, Sheets**

1/2, 2/2 as originally filed

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/IL2005/000172

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

Novelty (N)	Yes: Claims	1-30
	No: Claims	31-40
Inventive step (IS)	Yes: Claims	
	No: Claims	1-40
Industrial applicability (IA)	Yes: Claims	1-40
	No: Claims	

**2. Citations and explanations (Rule 70.7):**

**see separate sheet**

10/589021

IAP11 Rec'd PCT/PTO 10 AUG 2006

**INTERNATIONAL PRELIMINARY  
REPORT ON PATENTABILITY  
(SEPARATE SHEET)**

International application No.

PCT/IL2005/000172

**Re Item V**

1. Reference is made to the following documents:  
D1: US-A-5 202 030 (AXNAES ET AL) 13 April 1993  
D2: GB-A-2 206 342 (RAYMOND LEONARD SUKOVIEFF) 5 January 1989  
D3: PATENT ABSTRACTS OF JAPAN vol. 2000, no. 02, 29 February 2000 (2000-02-29) -& JP 11 319844 A (HITACHI LTD), 24 November 1999  
D4: WO 03/097539 A (WATER RESEARCH COMMISSION; UNIVERSITY OF CAPE TOWN; LOEWENTHAL, RICHAR) 27 November 2003  
D5: US-A-5 685 993 (LIU ET AL) 11 November 1997
2. Whilst the invention of claim 1 can be considered to be novel over D1-D5, it appears to lack inventive step (Art. 33.3 PCT).

The process of the invention of claim 1 comprises steps a) to f), whereby steps a), b), c) and e) can be in any sequential or simultaneous order.

D1 discloses the treatment of an industrial waste water by adding magnetite powder, limestone and caustic soda to adjust the pH, air as oxidant and various coagulation and flocculation aids. Separators are used to separate the flocks and to dewater the sludge. A magnetic separator is used to recover the excess magnetite (sludge) is separated.

D1 doesn't disclose explicitly the step of decreasing the pH. The objective problem can be formulated as how to improve the process to treat a waste water effluent with a higher pH.

The skilled person knows that the pH is an extremely important parameter to control and affect coagulation and flocculation.

D1 already discloses a two-steps pH adjustment allowing precipitation in two different pH ranges, namely 5.5 to 6.5 and about 7.5 (Cf. D1: col. 1 lines 49-60).

The skilled person would therefore amend the process of D1 and use an acidic coagulant to decrease the pH and work in the appropriate pH range, if he should start from a basic waste water. Therefore it seems obvious that the skilled person would modify the process of D1 including a pH decreasing step of claim 1.

The additional features of dependent claims 2-13 and 15-20, 22-30 are either known from D1-D5 or do not appear, in combination with the features of any claim to which they refer, to involve an inventive step (Art. 33.3 PCT).

Claims 14 and 21 comprise features, which, if taken in combination with the features of claim 1, would make up an invention, which appears to be clearly defined, novel and involving an inventive step in view of the cited prior art.

3. The invention of claim 31 cannot be considered to be novel over D1-D5 (Art. 33.2 PCT).

The plant of claim 31 does not differ from the plants disclosed at least in D3 and D5. The cited prior art discloses plants comprising a static mixer, several coagulator and flocculator tanks, a feeder for ferromagnetic powder, an oxidizer apparatus and a magnetic separator downstream of the mixer.

The additional features of dependent claims 32-40 are either known from D1-D5 or do not appear, in combination with the features of any claim to which they refer, to involve an inventive step (Art. 33.3 PCT).